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Nuray Yılmaz Cakmak¹, Emin Gemcioglu¹, Salih Baser²

¹Department of Internal Medicine, Ankara City Hospital

²Department of Internal Medicine, Yıldırım Beyazıt University, Ankara City Hospital, Ankara, Turkey

Abstract

A 48-year-old male was admitted to the hospital with chief complaints of pain around the left buttock and a skin wound on the same area. One week before the current admission, he was treated with an intramuscular thiocolchicoside injection. Pain, significant edema and spasm occurred within 60 minutes of the injection. There was hyperemia on gluteal skin after the first day of injection and necrotic skin patch after six days, as described by the patient. The patient was referred to our hospital after 7 days after the onset of symptoms. Blood count, erythrocyte sedimentation rate and C-reactive protein values were within normal limits. Bacteriological culture was negative. Color Doppler sonography revealed no impairment in the lower extremity flow. The patient recovered with surgical debridement.

Keywords

Livedo Dermatitis; Cutis Medicamentosa; Intramuscular Injections

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Corresponding Author: Emin Gemcioglu, Ankara City Hospital, Department of Internal Medicine, Ankara, 06100, Turkey.

E-mail: egemcioglu@gmail.com P: +90 505 936 91 41 F: +90 312 310 01 94

Corresponding Author ORCID ID: <https://orcid.org/0000-0001-9751-8452>

Introduction

Tissue necrosis associated with intramuscular drug injection occurs due to phenylbutazone, local anesthetics, antihistaminics, anti-inflammatory agents, corticosteroids, and penicillins. Typically, necrosis develops following hyperemia, skin discoloration, livedoid and hemorrhagic patch formation at the injection site. This clinical profile is termed 'livedoid dermatitis', or 'embolia cutis medicamentosa', or 'Nicolau Syndrome'. In this study, we presented a case of Nicolau Syndrome developed after thiocolchicoside injection.

Case Report

A 48-year-old male patient presented to our hospital with the complaint of pain around the left buttock and a skin wound on the same area. Intramuscular thiocolchicoside injection was made by a general practitioner to the left upper and outer gluteal region at the emergency room for lumbalgia one week ago. He said that immediately after injection, he felt intensive pain at the site of injection. In the history, there was hyperemia on gluteal skin after the first day of injection and a necrotic skin patch after six days, as described by the patient. Seven days after injection, when he presented to our hospital, the examination revealed a 15x7 cm necrotic skin lesion with ulceration in the left gluteal region (Figure 1). Blood count, erythrocyte sedimentation rate and C-reactive protein values were within normal limits. Bacteriological culture was negative. The patient was given oral non-steroidal anti-inflammatory medication, and a total of four surgical debridements were performed. After six weeks, a significant improvement was detected in the wound.



Figure 1. A 15x7 cm necrotic skin lesion with ulceration in the left gluteal region seven days after injection

Discussion

Nicolau syndrome, embolia cutis medicamentosa or livedo-like dermatitis is a rare adverse reaction of the site of intramuscular, intraarticular subcutaneous injection of particular drugs such as diclofenac, corticosteroid, local anesthetics, penicillin, vitamin B12, vitamin K [2]. The exact NS pathogenesis is uncertain but the most accepted hypothesis is direct trauma or irritation of the vascular structures with compression by the arterial embolism [3]. Pain around necrosis, may be due to the acute local vasospasm during the period of the skin necrosis develops. Differential diagnosis of NS includes cutaneous cholesterol embolia vasculitis, but it is a disease of the elderly and atherosclerotic individuals [4]. Our patient was young and has no atherosclerotic history, so the differential diagnosis was easily made. There is no specific treatment for NS. Additional treatment includes antibiotics, skin graft, and flap reconstruction if needed. The Z-track injection is a method of intramuscular injection that can minimize or prevent the Nicolau syndrome [4]. We report one such case for the first time with intramuscular injection of thiocolchicoside.

Scientific Responsibility Statement

The authors declare that they are responsible for the article's scientific content including study design, data collection, analysis and interpretation, writing, some of the main line, or all of the preparation and scientific review of the contents and approval of the final version of the article.

Animal and human rights statement

All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. No animal or human studies were carried out by the authors for this article.

Conflict of interest

None of the authors received any type of financial support that could be considered potential conflict of interest regarding the manuscript or its submission.

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